

Changes in Standards and To Be Considered. Applicable or relevant and appropriate requirements (ARARs) cited in the ROD were reviewed to evaluate changes in the ARARs, if any, since the third FYR. The 2013 revisions to the Sediment Management Standards (SMS) resulted in no material changes relative to the pre-revision SMS and MTCA. The marine sediment cleanup objective (SCO) benthic protection values under the 2013 SMS are the same as the 1991 SQS values (which were established after the 1989 CB/NT ROD was issued), and the requirements for protection of human health and higher trophic-level species are consistent with MTCA, which was promulgated in 1996. EPA has previously determined that the CB/NT ROD SQOs are protective in light of the 1991 SMS and MTCA.

There are no TBCs and no newly promulgated standards that might be ARARs to the site that affect the protectiveness of the remedy.

Changes in Exposure Pathways, Toxicity and Other Contaminant Characteristics. The ROD described current and future land uses and identified likely exposure pathways; at the time of this review, the descriptions of land use remain accurate for the Site conditions, and there are no actual or potential changes in exposure pathways that have occurred.

There have been no changes in the toxicity standards for the COCs that affect the protectiveness of the remedy. The Apparent Effects Threshold (AET) approach was used to establish both the ROD SQOs and the State SMS. It is acknowledged that for non-polar organic compounds, the ROD SQO values are in dry weight units (mg/kg) and the State SMS values (promulgated after the ROD) are in organic normalized dry weight units (mg/kg-organic carbon (oc)). However, when the State standards were developed using the AET approach, both total organic carbon (TOC)-normalized AET values and dry weight-normalized AET values were generated using the same data set of paired sediment chemistry and sediment toxicity test results. Unit conversions between dry weight and oc-normalized data are common in sediment evaluations.

It should be noted that since the ROD, the DMMP has listed both chlordane and dioxins/furans as bioaccumulative chemicals. Neither chemical was evaluated for human health risks in the RI/FS.

The USACE shoal sediment characterization study in 2013 identified dioxins/furans at concentrations of several hundred ppt TEQ. Almost all previous sediment quality investigations excluded analysis of dioxin/furan compounds, and the ROD does not have an SQO for dioxins/furans. Additional data, focused on surface sediment quality, would be needed to determine whether the contamination is site-related and action is warranted due to newly identified contamination.

Sediment sampling at the Head of Hylebos has identified that concentrations of some contaminants (e.g., PCBs and zinc) are trending upward. If these trends were to continue over time, and SQOs were exceeded more broadly in the area, then additional actions may be needed to ensure protectiveness. Ongoing sediment sampling will be used to monitor this trend.

Changes in Land Use. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy.